

Asbestos

Los Alamos National Laboratory
Laboratory Implementation Requirements LIR 402-570-01.1
Issue Date: February 8, 2001 (Revised 8/20/03)

Mandatory Document

1.0 INTRODUCTION

1.1 Overview

Note: [Click here](#) for lessons learned that may apply to the requirements contained in this LIR.

The requirements contained in this LIR shall be implemented for all work involving asbestos. This LIR supersedes Administrative Requirement 6-10, Section 6, "Hazardous Materials/Asbestos," and complements Laboratory Performance Requirement LPR 402-00-00.0, "Worker Health and Safety."

The requirements in this LIR shall be effective upon issuance.

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2.0 PURPOSE

The purpose of this LIR shall be to communicate requirements for protecting employees, subcontractors, and the public from the adverse health effects of asbestos resulting from operations, construction, or maintenance activities on Laboratory-owned or -operated property. Asbestos shall be managed in place, its condition monitored, and abated only when required. .

3.0 SCOPE AND APPLICABILITY

This document shall apply to employees, affiliates, and visitors who have a potential for occupational exposure to asbestos and to subcontractors as specified in their contract. It includes requirements that shall be implemented for working near or with asbestos, asbestos-containing material (ACM), or presumed asbestos-containing material (PACM) on Laboratory-owned or -operated property; and maintaining an up-to-date information system to include the quantity, condition, and location of ACM. This LIR also establishes the requirements that shall be implemented for the inspections of previously identified asbestos containing material; based on its risk rankings. The LIR also states the notification requirements that shall apply to the removal of asbestos or the demolition of any structure as required in the National Emissions Standards for Hazardous Air Pollutants (NESHAP).

4.0 ACRONYMS AND DEFINITIONS

4.1 Acronyms

ACM Asbestos-containing material
DOE Department of Energy
EPA Environmental Protection Agency
FM Facility manager
LANL Los Alamos National Laboratory

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LIR Laboratory implementation plan
NESHAP National Emissions Standards for Hazardous Air Pollutants
OSHA Occupational Safety and Health Administration
PACM Presumed asbestos-containing material
PPE Personal protective equipment
RACM Regulated asbestos-containing material
SSS Support services subcontractor
TSI Thermal system insulation

4.2 Terms and Definitions

Asbestos—Asbestiform varieties of chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite minerals.

Asbestos containing material—Any material containing more than 1% asbestos. Examples include pipe insulation, heating, ventilation, and air-conditioning insulation; fireproofing; roofing material; floor and ceiling tiles; mastics; and building siding.

Asbestos Authorized Person—Any person authorized by the safety and environmental responsible line manager, required by work duties to be present in regulated areas, and has met the regulatory requirements for training and medical surveillance.

Class I asbestos work—Activities involving the removal of ACM or PACM found in TSI and surfacing.

Class II asbestos work—Activities involving the removal of ACM that is not thermal system insulation or surfacing material. These activities include, but are not limited to, removing asbestos containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III asbestos work—Repair and maintenance operations, where ACM, including TSI and surfacing ACM and PACM, are likely to be disturbed.

Class IV asbestos work—Maintenance and custodial activities during which employees contact but do not disturb ACM or PACM.

Asbestos Competent Person— As defined in 29CFR 1926.1101; a person (1) who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate strategy for controlling asbestos exposure and (2) who has the authority to take prompt corrective measures to eliminate them. For Class I and Class II work, a competent person shall have been specially trained in a course that meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisors, or its equivalent, and, for Class III and Class IV work, a person who is trained in a manner consistent with EPA requirements for training local education agency maintenance and custodial staff as set forth in 40 CFR 763.92 (a)(2).

Demolition—The wrecking or removing of any load-supporting structural member of a facility, together with any related handling operations, or intentional burning of any facility.

Disturbance—Activity that disrupts the matrix of ACM or PACM, crumbles or pulverizes ACM or PACM, or generates visible debris from ACM or PACM.

Presumed asbestos containing material—Thermal systems Insulation and surfacing material found in buildings constructed prior to 1981 that must be treated as ACM until a competent

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person determines otherwise or until the material is sampled and the results determine otherwise.

Asbestos Qualified Person —An employee who has academic credentials or work experience in a relevant discipline, such as industrial hygiene or occupational safety, and who has experience, that enable him/her to evaluate, and oversee asbestos abatement projects for identifying appropriate hazard controls and determining if site-specific requirements are being met.

Regulated area- An area where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulates; and a work area within which airborne concentrations of asbestos exceed or there is a reasonable probability they may exceed the permissible exposure limit.

5.0 PRECAUTIONS AND LIMITATIONS

Guidance Note: This document does not cover transportation or disposal of asbestos, ACM, or PACM. Transportation and disposal requirements are found in [LIR 404-00-03](#), "Hazardous and Mixed Waste Requirements for Generators," and [LIR 405-10-01](#), "Packaging and Transportation."

6.0 IMPLEMENTATION REQUIREMENTS

6.1 Duties and Responsibilities

Individual or Organization	Shall
Safety- and Environment- Responsible Line Manager	<ul style="list-style-type: none">• Ensure that employees are not exposed to airborne asbestos in excess of the permissible exposure limit or excursion limit.• Ensure that employees are aware of ACM in their workplace, where they can request access to asbestos inspection records, and know whom to notify when they have concerns about the condition of ACM.
Facility Managers or Designee	<ul style="list-style-type: none">• Maintain an awareness of the presence, location, quantity, and hazard assessment of ACM and PACM within their facilities. Guidance note: This information is available through the HSR-5 building materials inventory.• Inform building occupants and work providers of the presence of asbestos. Guidance Note: This can be accomplished through the application and maintenance of appropriate signs and labels for occupants and through ESH site hazard and control forms (see LIR 402-10-01.4, Hazard Analysis and Control for Facility Work).• Ensure that current information on the

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	<p>condition of ACM and PACM</p> <p>in facilities is either gathered by HSR-5, or forwarded to HSR-5 for update of the institutional asbestos inventory. These inspections shall be prioritized by risk rankings assigned to the material. If inspections are conducted by personnel other than HSR-5, they shall be conducted and documented in accordance with the HSR-5 procedures contained in the "Asbestos Operations Plan" by an asbestos competent or qualified person.</p> <ul style="list-style-type: none">• Ensure that labels posted to indicate ACM and PACM are maintained in place and replaced when damaged or removed. <p>Guidance Note: Non-friable materials, such as flooring and interior asbestos cement wall panels, do not require labeling.</p> <ul style="list-style-type: none">• Ensure that all surfaces are maintained as free as practicable of ACM debris, and accompanying dust and that all spills and releases of ACM are cleaned up using required PPE, wet methods, and HEPA filtered vacuums.• Provide for removal or encapsulation of ACM that is damaged and/or deteriorated which may cause a hazard to workers. Guidance Note: HSR-5 can be requested to provide an asbestos hazard assessment and specify required work practices.• Ensure that an asbestos competent person conducts an assessment before or at the initiation of work which includes disturbance or removal of ACM and PACM. Guidance Note: The Laboratory's support services sub-contractor currently provides both the asbestos competent person and the assessment as part of their asbestos work process. HSR-5 can provide bulk and air sample analysis as requested.• Ensure that the requirements in the "Asbestos Operations Plan" for controls and work practices are employed when disturbing ACM.
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	<ul style="list-style-type: none">• Notify HSR-5 before removing or disturbing ACM so that institutional oversight can be executed.• Ensure that required NESHAP notifications are made to RRES-MAQ in accordance with the requirements of this LIR. By December 1 of each year, send RRES-MAQ an estimate of the amount of asbestos to be removed in small jobs which include operations and maintenance activities for the following year. Guidance Note: Small jobs are defined as those where less than 80 linear meters on pipes, 15 square meters on other facility components, or 1 cubic meters of facility components where the length or area could not be measured. For assistance in establishing these estimates contact the Industrial Hygiene and Safety Group, HSR-5 or the Air Quality Group, RRES-MAQ.• Mitigate visible airborne emissions of asbestos in accordance with the requirements of 40 CFR 61.145(c). <p>Guidance Note: LANL groups may use RRES-MAQ to perform required notifications or may train a person in 40 CFR 61, Subpart M. The trained person may issue the notifications (with a copy to RRES-MAQ). Decontamination and decommissioning of facilities that contain asbestos and large-scale removals of asbestos require separate notifications through RRES-MAQ. For support in establishing the estimates on asbestos removals, contact HSR-5. For work performed by JCNNM, a NESHAP reporting process is in place.</p>
Industrial Hygiene and Safety Group (HSR-5)	<ul style="list-style-type: none">• Respond to reports of disturbed ACM submitted to HSR-5 by Laboratory personnel and the FM and as requested, provide a hazard assessment.• Support the FM in the development of estimates for asbestos removal jobs for the upcoming year.• Maintain and update the LANL institutional asbestos inventory.• Ensure availability of the institutional

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	<p>asbestos inventory to building managers, area coordinators, FMs, and building occupants.</p> <ul style="list-style-type: none">• As requested, perform inspections of ACM and PACM in facilities to ensure that material has not been damaged or deteriorated and that changes in the condition are identified and documented so that the institutional asbestos inventory may be updated and required follow-up actions taken. Ensure that items and services that do not meet requirements are identified, and that the corrective action process would prevent recurrence.• Provide oversight of subcontractors to ensure that asbestos-related work meets requirements.• Maintain the Laboratory's Asbestos Operations Plan for the management of asbestos containing materials.
Air Quality Group (RRES-MAQ)	<ul style="list-style-type: none">• Serve as institutional point of contact for records associated with the reporting requirements of 40 CFR 61, Subpart M.• As requested, perform notifications of asbestos removal or demolition to NMED on behalf of LANL organizations.• Provide oversight of asbestos related work to ensure compliance with 40 CFR 61 Subpart M.
BUS Procurement	<ul style="list-style-type: none">• Ensure that asbestos regulatory requirements are incorporated in contractual provisions for subcontractors.• Ensure that asbestos abatement is performed only by contractors licensed by the New Mexico Construction Industries Division to conduct asbestos work (GS-29).
Occupational Medicine Group (HSR-2)	<ul style="list-style-type: none">• Provide asbestos medical surveillance for all employees who for a combined total of 30 or more days per year are engaged in Class I, II, and III work or are exposed at or above a permissible exposure limit.

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Training Group (PS-13)	<ul style="list-style-type: none">• Provide asbestos awareness training and referrals to vendor training courses for Class I, II, III and IV asbestos work.
Employee	<ul style="list-style-type: none">• Immediately notify the safety- and environment-responsible line manager and/or the Facility Manager if damaged or deteriorated ACM or PACM is found.• Not disturb any building material posted with asbestos labels

6.2 Reporting Requirements (NESHAP)

Any operation or activity that involves the removal of asbestos or demolition of a structure (even if asbestos is not present) must meet the reporting, asbestos removal, and asbestos waste requirements in 40 CFR 61, Subpart M. For asbestos removal, these reporting requirements shall include written notice to the New Mexico Environment Department of intent to demolish or renovate at least 10 working days before performing the activity when quantities equal or exceed (1) 80 linear meters on pipes, (2) 15 m² on other facility components, or (3) 1 m³ of facility components where the length or area could not be measured previously. Smaller scale jobs shall be included in the annual notification prepared and submitted by RRES-MAQ.

All state notifications must be made by a person trained in accordance with 40 CFR 61.145 (c)(8).

6.3 Training

Custodial, maintenance and craft personnel assigned to facilities where ACM is present shall take the PS-13 course, "Asbestos Awareness" (or PS-13-approved equivalent). Other personnel performing asbestos work shall receive training commensurate with the class of work (Class I, II, III and IV work). This training shall meet the requirements contained in EPA's Model Accreditation Plan. PS-13 shall be contacted for referral to vendor courses that meet these requirements.

6.4 Operations

The Laboratory's Asbestos Operations Plan shall be maintained by the Industrial Hygiene and Safety Group and shall ensure that when requirements are implemented ACM left in place is maintained in good condition and that work activities that may disturb the ACM are conducted in accordance with regulatory requirements. The Operations Plan shall consist of building inspections, material labeling, material sampling and analysis, hazard assessments, distribution of information on the quantity, location, and condition of ACM, and the controls that shall be applied to the work practices employed when disturbing ACM.

6.5 Equipment Control and Maintenance

The equipment used for process (exposure) monitoring, inspection, tests, and data collection shall be calibrated according to National Institute of Standards and Technology (NIST) and maintained to ensure continuing data quality process capability.

7.0 DOCUMENTATION

7.1 The documentation required by this LIR shall be maintained by the affected FM, HSR-2, HSR-5, RRES-MAQ and SUP. HSR-5 shall maintain the institutional asbestos inventory and make it available to employees upon request.

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7.2 Documentation of assessment of personnel exposures to chemicals by asbestos qualified persons shall be provided to HSR-5 as required by LIHSM Chapters HSR-5-LIHSM-05, "Personal and Area sampling for Air Contaminants" and HSR-5-LIHSM-01, "Worker Protection Qualitative Exposure Assessment." ([Click here](#))

8.0 REFERENCES

8.1 Laboratory Work Smart Standards

ACGIH (American Conference of Governmental Industrial Hygienists), 1997 "Threshold Limit Values and Biological Exposure Indices Based on the Documentation for Threshold Limit Values for Chemical Substances and Physical Agents".

29 CFR 1910, OSHA "Occupational Safety and Health Standards for General Industry".

29CFR 1926, OSHA "Safety and Health Regulations for Construction".

40 CFR 61 Subpart M, NESHAP

8.2 Other References

LIR 402-10-01, "Hazard Analysis and Control for Facility Work."

LIR 402-10-03, "ESH Management of contractor Performed Facility Construction, Maintenance, Environmental Restoration/Decontamination and Decommissioning, and Related Drilling Operations."

LIR 230-03-01, "Facility Management Work Control."

ESH-5, "Asbestos Operations Plan."

National Institute of Building Sciences, *Asbestos Operations & Maintenance Work Practices*

National Institute of Building Sciences, *Asbestos Abatement & Management in Buildings Model Guide Specifications*

8.3 Document Ownership

HSR-5 shall be the OIC for this LIR.